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## Prezioso, Jerry ~ Oral History Interview

Madeleine Hall-Arber

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Voices from the Fisheries  
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Woods Hole, MA 02543

# **Interview with Jerry Prezioso by Madeleine Hall-Arber**

*Summary Sheet and Transcript*

## **Interviewee**

Prezioso, Jerry

## **Interviewer**

Hall-Arber, Madeleine

## **Date**

June 30, 2016

## **Place**

Narragansett, Rhode Island

## **ID Number**

VFF\_NG\_JP\_001

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## **Biographical Note**

Jerry Prezioso was born on February 27, 1949 in Brooklyn, New York. He received his undergraduate degree from Northeastern University and his master's from the University of Rhode Island's Graduate School of Oceanography. Jerry began working at the NOAA Laboratory in Narragansett, Rhode Island in 1974 and continues to work there as an oceanographer to this day.

## **Scope and Content Note**

Interview contains discussions of: NOAA Narragansett Laboratory, Northeastern University, University of Rhode Island's Graduate School of Oceanography, zooplankton, plankton sampling, collaboration between NOAA scientists and foreign fishing vessels, technological advances, mechanical bathythermograph, climate change, outreach to schools and students, NMFS, Shark Week, salps, changes in gender bias within NOAA and the fishing industry

Jerry Prezioso discusses his introduction to oceanography and the study of plankton as an undergraduate at Northeastern University as well as his experiences working as a scientist at the NOAA Laboratory in Narragansett. Jerry touches upon topics such as collaborations with foreign fishing vessels, outreach to students, and major changes that he has observed involving technology, gender bias in the field, and organism behavior in response to climate change.

## **Indexed Names**

Almeida, Frank

Collette, Bruce

Despres, Linda

Donelan, Charlie  
Hare, Jon  
Kohler, Nancy  
Marak, Bob  
McLaughlin, Diana  
Natanson, Lisa  
Richardson, Dave  
Sherman, Ken  
Skomal, Greg  
Stoddard, Ruth  
Turek, Jim

### **Transcript—JP\_001**

**Madeleine Hall-Arber:** Let's see...ok, so maybe what you can do is introduce yourself, and say what you, what you do here.

**Jerry Prezioso:** Ok.

**MHA:** So...

**JP:** So, hi Madeleine. My name Jerry Prezioso. I'm, I'm an oceanographer here at the NOAA Laboratory in Narragansett, Rhode Island.

**MHA:** Ok...I forgot to be listening. (laughter)

**JP:** (laughter) Want me to say that again?

**MHA:** Yes, please.

**JP:** Ok, so. So hi Madeleine. I'm Jerry Prezioso. I'm an oceanographer here at the Narragansett NOAA laboratory. And...we're doing our interview this afternoon.

**MHA:** Great.

**JP:** Sounds ok?

**MHA:** That's perfect, yep, sounds great. I...I think what I'll do is, I can't forget before I leave to have you do the, the release form. But we'll, since we're already recording and we know it's working, we'll go ahead and continue.

**JP:** Ok, alright.

**MHA:** Ok. So this is an interview for Voices of the Fisheries as part of the Voices from the Science Center's Project funded by NOAA's Office of Science and Technology. I'm Madeleine Hall-Arber, and today I'm speaking with Jerry...

**JP:** Prezioso.

**MHA:** Prezioso at the Narragansett lab. The time is...almost one o'clock. It's five to one. So, um, can you introduce yourself again?

**JP:** Sure. So, my name is Jerry Prezioso. I'm an oceanographer here at the, um, NOAA laboratory in Narragansett, Rhode Island. I've been at this facility since I was first hired here at this facility in 1974, although my actual career predates that too...which I can get into...

**MHA:** So when, when were you born?

**JP:** I was born in February 27, 1949.

**MHA:** And...where?

**JP:** In Brooklyn, New York.

**MHA:** Oh really?

**JP:** Yeah, so...yeah.

**MHA:** And where did you grow up?

**JP:** Well, I grew up in a, on Long Island, and part of that time was spent on the outer part of Long Island...Suffolk was kind of an estuarine kind of environment, I think it influenced me to like the ocean. And...and my parents moved to Lynn, Massachusetts, when I was in...just before my senior year of high school. So I was forced to change high schools, but it also introduced me to Northeastern University, which has a co-op program, and that was pivotal in my role, my career, because I met students that liked the co-op plan where they would go to school half the year and then they would, they would work half the year. And I thought, well, this is great. And having been influenced by Jacques Cousteau's early books like *The Silent World*, and I thought well, I want to go into marine biology, and so I put that down. And at Northeastern, when I went to my first co-op position, and I got a job with—then it was the Bureau of Commercial Fisheries with NOAA. And that's how I got stuck.

**MHA:** So...what exactly was your first job? What were you doing?

**JP:** My first job...well my first fisheries job was, I worked for Ken Sherman, here at this lab, who is still here today. And he was—at that time he was in Boothbay Harbor, Maine. And he came to the...to the University to, and looking for students that would sort plankton samples. And everybody that was in my class and in the Boston area said, “no, we don't want to leave the Boston area, we want to stay right here.” And I said, “no, take me, I want to go to Maine,” you know, so. So I went to Maine, and I went to live in Boothbay. And learned about plankton, learned to identify some of the zooplankton. And went out to sea with Ken on these daylong trips down the coast of Maine. And that's how I got started with, with fisheries. And that was in 1968. So that was my first beginning. Yeah, so. Over, over time, you know, I—I would go back to school and then come back to work. I never went back to the Boothbay lab. I was there for six

months, and then the laboratory was scheduled to be closed and Ken ended up moving to, well he took a position in Washington, and then later came to Rhode Island. So in the interim years, I went to Woods Hole and worked for some other people there. Some time on plankton, some times working with benthic organisms until I graduated. I ended up also, I worked for the university for a while before I graduated, and then...when I graduated, I was looking for a job, and I got a note from Ken Sherman here at this Narragansett laboratory, and said, "would you like a job?" And, and someone else, too, who worked for Ken, Bob Marak. And they offered me a position, and I said "sure, I'd like to come here." So I—I came down to interview for this position, and I came to the laboratory and came inside, and there was nobody in the building, and I thought well, that's very odd, you know, and I could hear voices, and I looked outside and everybody's outside in the back eating, eating, they were eating fish, there was the annual fish fry. I didn't know that. And I thought, wow, they do this all the time, you know, so I thought, I want to work at this place, you know, so. They hired me on, and I was first here as a contract person working through the Smithsonian Institution, on a contract to archive plankton samples that were collected. And then over time, they were able to switch me to a permanent position part time, but then eventually I switched to a full time position. And...so I was a biological technician. Then because we're across the street from the University of Rhode Island's Graduate School of Oceanography, I started to take classes there part time, and eventually I got a master's degree from the GSO—Grad School of Oceanography and Ocean—Biological Oceanography. So I became an oceanographer. But doing a lot of the same things that I've been doing here all along, working with plankton, analyzing plankton samples, and spending a considerable amount of time going to sea. You know, collecting of samples, working with other people, and eventually I usually would go out and I was chief scientist, and I tried to coordinate the people that are going on the cruises, try to get students from other universities to go out, work with other intuitions to sort of multitask our trips so that we're not just working on fisheries problems but also providing data for things like—for instance, Princeton University was doing some work on marine isotopes and seeing how nutrients like nitrates move through the food chain from the seawater through the phytoplankton and zooplankton, so we try to organize different people with our trips and sort of give them a multitask kind of objective, so we're doing a lot of things on our, on our cruises.

**MHA:** So cruises are NOAA boats?

**JP:** Yes, NOAA vessels, usually. Um, there was a time in my career—this is kind of another interesting little side track—but we, we used a lot of foreign vessels when the, before the 200-mile limit. Well, it was, it was, when the 200-mile limit was passed, the foreign fisheries, foreign countries, couldn't come here unless they were willing to donate some of their vessels to help us do research on the fish stocks and the plankton samples. And so we worked a considerable amount of time spent with Soviet vessels during the Soviet bloc era, so I got to go on a lot of Russian vessels. They were called research vessels but they were actually fishing vessels. They were side trawlers, stern trawlers, but they had a small amount of lab space and they would collect plankton samples for us and I would show them how we would collect our plankton samples using the bongo nets that we use and collect water samples. And they would provide the vessels, and we, in turn, would provide them with opportunities to fish within our 200-mile limit. And so that was a very interesting period, and that was in the, like in the '70s, I believe, until the early '80s. And got to spend so much time on Soviet vessels, I started to pick up a vocabulary so I could sort of speak to them a little bit, kind of pigeon Russian I would call it, you know. I never

learned the Cyrillic alphabet so I didn't know that, but we would have other countries that would work with us too, so we worked with, I had a chance to participate with Polish vessels, Japanese vessels, East and West German vessels...I think that's it, yeah so.

**MHA:** Were they different in the way they approached your, your research in, in accepting, accepting you onboard, and was there any differences among the different nationalities?

**JP:** Yeah, I think the people were all, the people that came were all very motivated, and I think the differences I saw were more in terms of culture, not so much science. The science—it's always, you would see individuals that are very motivated in terms of the science and very, very dedicated to what they were doing, you know, and I've been doing this long enough, and I've seen the transition we've gone in terms of to know some of the changes. The technology that has changed from when I started as a student, when there were actually no computers at all, almost hardly any electronics on the vessels to now the digital age when everything is digitized. And so I think on the vessels, some of the vessels, like the Soviets, for example, had much cruder, I think, instrumentation than other countries like the West Germans, for example, always had the very latest, you know, or even the East and West Germans you could see a difference there. Poles, somewhere in between. But it was always the people that were, that made the science going, they maybe, maybe were charting their stations on a piece of paper instead of something on a, you know, on a computer in later years. But they were always trying to do their, their science as best they could, you know, so. So I guess I would say that that was a difference, more in the terms of the technology that they had at their disposal.

**MHA:** So...who was your first—Ken was your first supervisor?

**JP:** Yes.

**MHA:**...and, and Bob Marak.

**JP:** Bob Marak, right. Yes, that's right, yeah.

**MHA:** And, and then when you came down here, after leaving Boothbay, who was...?

**JP:** It was, Bob Marak was here, yeah. So Bob Marak was here, and then Ken came here a little later after that. He was still supervising but from Washington, and then he moved to Rhode Island, so.

**MHA:** So did you get involved at all in the plankton joint work with Poland?

**JP:** Um, well yes, in terms of the collecting of the samples and working with the Poles, yes. And also I helped to send the samples off to Poland, so, which is something I'm still doing to this day, so, so I'm involved in that aspect, yes.

**MHA:** And what do you think influenced...what scientific theories influenced you most, in, in guiding your research, if you can speak to that?

**JP:** Ok, well I think, yeah I think one of the things that I thought was interesting was that as we

see climate change, in fact this is one of the things I picked up from my master's thesis, was the fact that organisms in the marine environment are being influenced by the changing parameters, and they were mainly temperature, I think. But you could see things were moving further north, and so I thought it was interesting to, if we could document how the organisms were changing their, their neighborhood, so to speak, moving from the southern areas further north, and one of the things I documented in my master's thesis was that, like one copepod that in the, talking about the MARMAP decade, for example. The MARMAP decade started in the late '70s to the late '80s, and so like I had samples from the early '70s, and it showed like this one copepod, for example, that was always found like south of Cape Cod in warmer, shallower water. And then we had some samples like after 2000 and I compared the distribution then, and you could see they had moved into, up into the Gulf of Maine, and onto Georges Bank, dramatic change over a thirty-year difference. In fact, so much so that I remember some people saying, "oh, that's an artifact, it's not right, you know", but we checked and we could show that things were definitely moving north, and I always thought that was something that really influenced me, that brought home, I think, that the environment is, not just the environment changing but it's influencing the animals that live there and they're responding, you know. And so now I see like people that I work with, like Jon Hare, for example, he's been documenting the fish too that are moving, like Atlantic croaker for example, certain species being found further north now. The interesting—that raises interesting questions like, they're finding the environment more to their liking, but there are other parameters, maybe like what kind of benthic environment, what's the substrate going to be different up north, than it would be down south? So there's a lot of questions, but I think this is very interesting, I think this is something that kind of drives me, I think is interesting. I still enjoy coming to work to see, you know, what people are doing in terms of documenting the changes that are going on, you know.

**MHA:** Do you think you're, you are influenced most by Ken's interest in the phytoplankton in the...is that how you focused on, ended up focusing on that, or is it just...?

**JP:** Yeah, no I would agree with that. Yeah, Ken definitely influenced me with zooplankton, he was very interested in zooplankton, and I think one of the first things he did when I worked up in Boothbay Harbor, he handed me a book by Sir Alister Hardy, the *World of Plankton*, and so I just read up all about plankton, and I didn't even know very much about plankton at the time. It was a whole universe of organisms living there, right, right in front of us that I wasn't even aware of, you know, so I thought that was very interesting. It was a big influence on me, I think, you know. I was always interested diving too, you know, so I took my interest in diving, and they've, they've enabled me to continue diving as part as my, a very small part, of my career here, but I've used my abilities with, combined with photography and so I tried to take photographs of some of the organisms that are around here. And...mainly, I try to work with people, like we have a person here, Jim Turek, who's working with habitat restoration, and he documents anadromous fish, like alewives in Rhode Island, coming upstream, up the narrow river, for example. And so I climb in there, into a depth of about two feet of water with my, you know, a GoPro camera or another still camera underwater, and try to get, I've gotten pictures of them migrating up, so. So yeah, there's, I think, a number of things have influenced me, so it's been Ken, it's been people like Jim Turek with habitat restoration, Jon Hare, who's very interested in ichthyoplankton, and the fish have been a big influence I think too, and other people. We have another person here in this same building, Dave Richardson, whose working on Atlantic bluefin tuna larvae, and he's showing that he's finding that they're spawning in an area not previously

considered before, which is the southern, southeastern coast of the U.S. on the Atlantic Ocean. People had thought they were just in the Gulf of Mexico, or over near Europe previously populations, but he's seeing evidence that they're spawning in an area not, not, that hasn't been documented very well, so, so that's kind of interesting too. So I think I'm influenced by a number of people, you know.

**MHA:** And, and that spawning, do you think has to do with the plankton, the food that's gathering there, or they just don't know yet?

**JP:** I don't think they know. I certainly don't know, I'm not the person to ask that, but I don't know if they really know why they are where they are. You know, so.

**MHA:** That's interesting.

**JP:** Yeah, but there are a lot of interesting things going on and that's the, that's the, the fun, of I think, this area, that there's a lot of things always going on, and I feel like I'm in the middle of it.

**MHA:** What do you think has changed most since you've been here, in terms of either science or whatever?

**JP:** Ok, well I think, I've thought about, you know, answering that, and I think, what I, what I think from my point of view, and I think the technology is an amazing change. I think it's people in my generation that appreciate this more than anybody else will, like newer scientists coming onboard, now students coming on, because kids now, or students now have grown up in the digital age and they take this for granted, but I think the older people that are, you know, from, have been around for so many years that have seen no electronics at all. So I'll give you an example, like some of the way we collect temperature data, for example, so we wanted to collect temperature from below the surface, they had something called the mechanical bathythermograph. Mechanical bathythermograph was essentially just a piece of steel pipe with a bimetallic strip in it and a pressure gauge, like based on a bourdon tube, which is a simple coiled tube that when water enters it, it causes the coil to contract somewhat and moves the lever in one direction, and then the bimetallic strip will change, depending on the change in temperature, will move the strip in another direction, so you get movement in two directions and you can scratch a profile, temperature-depth profile, on a glass slide that's either coated with gold or smoked. The Russians, by the way, used smoke, the U.S. used gold. And it would scratch the slide, and you put that into a reader, that looked like a magnifying glass with a grid on the back of it, and you put the slide in there, and then you could read your points, you could read your trace, and see how the temperature changed from the surface down to the bottom. And that's how you collect temperature data. Now, of course, we can collect temperature data with electronically just dropping a CTD, a conductivity temperature depth device, which will record temperature and depth and salinity simultaneously and in real time send it to your computer, on your laptop, in, on the ship while you're dropping it down to the surface. So it's big changes, just the way we collect the data, but also the way we look at the data too. We have satellites to look at the data, look at temperature profiles, we never had satellites before, you had to rely on ships in different areas to get an overview, so. So I guess technology's impressed me, making the changes in terms of how we look at the science.

**MHA:** Well, how about with the analysis and different models and mathematics?

**JP:** Well yeah, that's, that's a good question. Sure, the mathematics, yeah that's the...the analysis has changed dramatically, too. And I'm thinking one of the things that I remember learning statistics when I was in college and we had to, you know, do different statistical tests to test your, test your data. Did you have a significant difference? But now as I, when I was working here, we started using the statistical analysis system from SAS, which was a commercially available package. And you can run all these, these canned tests, you know t-tests and all different tests to test, test your nonparametric data or test data if it was normal and you could, you could run all these tests and so it would made the analysis quite different, and probably more thorough, I think, than it was in the past, I think, because you had much more power at your disposal, in terms of looking at the data, so. Also, the amount of data too. You could, on a computer, you could really analyze huge amounts of data, you know, so yeah.

**MHA:** So do you think it's more reliable in consequence?

**JP:** I think it's more rigorous, for sure. And probably more reliable because you're looking at bigger sample sizes now, and you're testing them from different perspectives. So yeah, I would say that probably it's increasingly reliable, I think with time.

**MHA:** Now, is there, has there been any major change in...kind of the theories that are being used been looked at, plankton, for example? Or is that, has it been more or less continuous development?

**JP:** I don't know. I'd have to think about that one. I think one of the things...well...one of the things that's been kind of a constant is that the biomass of the plankton seems to be still the same, I think, from...but that the distribution has certainly changed a lot, you know. And the makeup of the plankton has changed, so it's one of the things I remember that over time—I remember Ken publishing things about how the biomass and the amount of plankton hadn't changed too drastically, but, but distribution and the, the types of plankton are changing. And it's probably all I could really speak to, and from my limited exposure to things, you know, certainly I can't talk that much about ichthyoplankton, haven't worked with that as much.

**MHA:** Can you look back and think about what was the most exciting thing in your career, either, I don't know, maybe a way of doing things that's different or...?

**JP:** Let's see, most exciting thing, let's see. Well, I think it was exciting for me to be involved in seeing like, these changes that I could see firsthand by looking at data that was, that was, since we have data that goes back to the '70s, and then data in the 2000s and to see how dramatically things are changing, something I hadn't realized how much they have changed. That was, that was kind of exciting, I think, too. But also, too, to be exposed to other people that are working on, on things, you know, I've had, I've enjoyed, I think, in my career the opportunity to work with people not just from other institutions but other countries on that, so that's been interesting, interesting to see their points of view and how they're looking at things, so I thought, I've enjoyed that part of it.

**MHA:** Have you...I don't know whether NOAA does this, but have you been to any of the other

science centers to interact with people that are doing the same kind of thing as you?

**JP:** Some, some, I've limited travel, I've worked with some of the other science centers. I've worked with the Milford Laboratory, and something really different, we were looking at, they were looking at, you know, shellfish, trying to look at the development times of shellfish in different environments more pristine versus more impacted, and I was able to work with them and just, in terms of just planting quahogs and cages and then bringing, getting them up. More, it was more of the hands on of the fieldwork and I wasn't involved in the analysis with that. But that was kind of interesting, I got a chance to see what a totally different kind of research than what I was doing with plankton. So we get to use diving for that, so that was...got to use one of my expertise and we've...I had had a chance to go to visit the Pascagoula laboratory when they were doing some, they were looking at hydrocarbons in fish tissues when there was different spills over the years and we took the Albatross IV, went down the coast to Pascagoula from up here and took samples along the way, and just looked at how that, so again have some idea of how these hydrocarbons are taken up into the ecosystem, and then show themselves in fish tissues when they were analyzed. So, that was kind of interesting to see that, yeah, so I've had some opportunities.

**MHA:** Yeah.

**JP:** Yeah.

**MHA:** So what do you do on a day to day basis? What is your main task, I guess?

**JP:** Well, I think, lately, I've been less with analysis I think, and more involved, more operational I suppose, with working with the, getting the cruises ready to go. If I go on them, you know, I'll try to coordinate the people that are going, I'll be, as the chief scientist, there's a lot of nuts and bolts, things you have to do like getting a Canadian clearance to go into the Canadian waters. If there are foreign scientists that are going to be working with us, we have to get clearance for them, so there's a process just to go through that...writing up crew's instructions, so that's submitted to show what you want to do, and then crew's reports, like I have over there, this is the track from the most recent cruise that just finished up. I was on that part, and other people were on the second part. So, I have to bring that all together and put out a report. So those kind of things do take up a lot of my time day to day, but also, there's also been one part of my work too lately has been more outreach efforts too, because I think as I've gotten older I realized, you know, we get pinged on once and a while say, "oh can you speak at a school?" And, and over the years, I've realized that this is a pretty important thing because a lot of, I think, scientists unfortunately don't take the time to do this. They don't realize how important it is, but you know I look at students now, and I remember myself when I was going into this, if it hadn't been for Ken Sherman, I had no clue as to what was being done, you know, a whole world of plankton out there and things to be done with it. And I see students now they have no idea what's going on. I think the, the government is, you know, taken to task a lot these days, and I feel it's almost like a mission that we can show people we're doing something really positive here and something that really needs to be done. And so I think outreach is part of my, my job too, so I try to do the best I can, you know, going to schools, hosting things here. We have people come in sometimes, we have like an open house, so, yeah, so that's, but...sort of mish mosh of my day to day activities.

**MHA:** Did you ever work with Linda Despres?

**JP:** I did yes, yes. I've known Linda a long time, yeah, so, yeah, good person. I'm sorry to see her retire, you know, she was one of the persons from my era, you know, so she's moved on now. But I've been to sea with Linda, and yeah, so, very good, yeah, working with her.

**MHA:** So...how do you make contacts with the students to have them? I, I saw the log...

**JP:** Oh, you did?

**MHA:** Yeah. It's great.

**JP:** Oh ok, yeah, thanks.

**MHA:** It's really fascinating.

**JP:** Yeah...well, that's actually one of the ways right there, going online, has helped get the word out a little bit, and then we get people in it. Also sometimes, actually, I don't have to do anything. Sometimes there's teachers themselves will just walk in here and they'll say, "hey, can somebody come in to our classroom," and they'll say, so they point them to me, and they say, "I've got"...there's a name, Diana McLaughlin, there's a name right on that board there. She's one of the persons that walked in two summers ago, and said could I go to her class, and so went to her class and through that met some of the students, and one of the students has come in to volunteering, in fact she's diving with me tomorrow and we'll take a temperature logger and put that out in the water and do long term temperature changes. She's been to sea with me on a recent cruise. So that's one way. So, the other way, too, I think is, just the students themselves, once they've, they've been...teachers they sort of get the word out and then other schools will, will contact us. So we've had schools, Massachusetts, we have a group of, it's a special program they're kids with, like, autism that come here, and they come here every year, they'll be coming later this month in July, and we go through, I show, we set up our lab with different instruments that we take out to sea and we have like a PowerPoint presentation, and we show how we deploy things and what we do with the data when we collect it, so. So yeah, it's sort of, it's growing slowly I think through word of mouth and also through the internet.

**MHA:** And, obviously, the, your higher ups must think it's, consider it a valuable use of your time.

**JP:** Yeah, they do. They're very supportive, actually, extremely supportive, so much so that like Jon Hare will come along sometimes and help. So it's just recently, this year, he's come out. We had Dave Richardson, the bluefin tuna larva guy, he's came out and someone else came here, talked about sharks, we have an apex predator's group that they talk about shark tagging. So we will go as a team and Jon helped us set up and he went out there and we all worked together and we showed different aspects, you know, of what took that, now that we have not just, you know, I represent maybe one point of view of what's going on here, but we have other people that can share their expertise. And so, they'll show how to tag a shark, how to collect a plankton sample, what do we do with the data, you know, so working together, I think, people bring a...it's very supportive environment, I think it's very good in terms of their getting the word out to students,

so yeah.

**MHA:** And do you feel like you've had the opportunity to mentor anybody, like Ken mentored you in a sense?

**JP:** Oh I see, yeah, I think so, I think there's been students that I've helped mentor. Well, I mean there's actually a mentoring program for the, the local high school. So, I've mentored some of their students coming in. I'm trying to think of anybody in fisheries that, younger people, that I've had a chance to, to mentor, that they...I mean there's some, and they've moved to other positions, but I think I relish the fact that I have a chance to maybe pass on some of what I've learned just as I've been mentored, so yeah, I've had some, some chances to do that, yeah.

**MHA:** Ok, good. And have you ever had a chance to talk to fisherman, for example, about what you do and get any feedback from them about their perspective on things?

**JP:** Yeah, not, not too much. I think in my position I haven't had direct, direct contact with the, the fishing community. Sometimes incidentally, I'll be wearing a NOAA thing and people come up to me...we'll have discussions about what, what's going on, and I think it's unfortunate that, you know, fisherman a lot of times look at NOAA as a regulatory agency and not more than just...also trying to get information too, you know, so. But I think there are different fisherman that have different outlooks. Like, I can think of one person, very positive person, Charlie Donelan, who is a, he's a sport...sport fisherman. He...what's the word I'm looking for, he's uh...contracts out his vessel—charters, charters his vessel to sport fisherman and they do, he's pushed shark tagging, and, you know, billfish tagging. And so he's very supportive of the kind of work we do, and he's been a very positive person in the fishing community, that I've had a chance to work with. So, including going on his vessel, and doing some shark cage work, we've gotten some, so I have like the (shows MHA a photo)...it was taken from one of the trips there, you know that fish, the shark, and the diver taking a picture of the shark there, working with Charlie on his boat doing that. So, but I, it's been pretty limited, I think, my, my communication with the fishing community, so...yeah.

**MHA:** So, can you talk a little bit about how you see NMFS as having changed over time?

**JP:** Let's see...I have to think about that one for a second, you know how, how things are changing in NMFS. Well, I just hope we don't become too bureaucratic as we, as we go on in time, you know, and that the...I think...you know in terms of collecting data and looking at data, I worry sometimes that, that especially because we're funded by the government, you know, there's a political aspect perhaps, so you hear a lot of people in Congress talking about restricting NMFS, or that we should be not saying some of the things about climate change, that we are dependent on who you're talking to, so, but I think, the thing about NMFS that I see that I've been encouraged by is the fact that they've consistently been pretty supportive of the science I think, and that they are still maintaining a pretty straightforward approach to how we, you know not just analyze the data, but also how we distribute the data in terms of publications and interacting with the public. I mean, for example, when we still, when we talk to the public, we still go through channels, I think, to make sure that what, what we're saying, I think—I've had chance to like be on someone's radio show, for example once, and, but they're pretty supportive, you know, they say just to get the word out, you know, be honest and, I, I do appreciate that, I

think, and fisheries that I don't see that changing too much, even though we've you know become bigger as an organization some people say maybe unwieldy, but I think that, I think as a scientific entity, I think I see NMFS, you know, still doing pretty much what it was doing when I was first starting with them, so yeah. So I thought, how would I answer that.

**MHA:** That's good, that's...so, I noticed in some of my reading in preparation that there's a link between this lab, the Narragansett lab, and Hampton University, have you had any involvement with that?

**JP:** No, not too much. I haven't been directly inv—I know Jon Hare has been doing some things with interns and outreach to different colleges to have students come here. So Jon's been more the person with, involved in that. I may, I'm trying to think, we've had some interns, yes, I worked with the interns, but he, Jon really set that up, and had a chance to—

**MHA:** And are there still Northeastern students that come?

**JP:** No. We've, I don't know, that's a, that's a tough one for me because Northeastern students were actually a big part of the Northeast Fisheries Science Center at one point, at one time, even our deputy director was a, was a graduate of Northeast--in fact he used to work for me when I was, when he was a co-op student at—I was working at Northeastern and he was a work study student at the time. And he got into fisheries and became the deputy director, and...

**MHA:** Who was that?

**JP:** That was Frank Almeida, yeah. A good person, good character. And...but you know, I don't know what happened. I think over, over time, I think Northeastern kind of, they, they had trouble with getting students to leave that area, I think, and so they just, they just didn't push it as rigorously as they did when I was first a student, and so I've seen that kind of a, the Northeastern co-op program kind of dwindle away. Other universities conversely, have sort of picked up the, the, the, that approach, I think, and they've seen interns from other schools, but I haven't seen Northeastern playing as much as a role here anymore, which is kind of too bad.

**MHA:** So you think they weren't graduating, is that why, or...?

**JP:** Well, I don't know in terms of trying to look for making more of a, an effort I think to get Northeastern students involved with, with fisheries. I even went there one time and said, "you know, I don't see too many Northeastern students showing up here, you know", and they're telling me that a lot of students thought that they weren't earning enough money working for the government, you know, they wanted to earn more and stay in the Boston area. That was one argument that I remember. And this was a long time ago, so I don't know if I can address recently what's, what's going on, you know, so...but yeah, I just don't see them.

**MHA:** Actually, that's kind of interesting, because when you talk to people in the fishing industry, in the industry itself, and ask if their children are being encouraged to enter the industry, a lot of them say no, and I don't know whether, I mean in some cases, it's because they don't feel like there's a future.

**JP:** Right.

**MHA:** But in other cases, I'm wondering if it's because the kids themselves would rather, you know, keep their fingers clean and...

**JP:** That could be, well, you now, that makes me think of something, almost, I'm paraphrasing, one of the charter boat captains, who was, we, 'cause we both were charter vessels to do our research on as well as NOAA vessels or foreign vessels—the foreign vessels kind of ended, I think, after the '80s anyway, but—but we would, we've chartered some vessels, and one captain told me, he said, he said, he said to me, he said, "what do you think the number one thing that students say they want to go into when they graduate?" And I said I don't know, and he says, he says, "marine biology" and he said, "what do you think the last thing is that they want to go into?" And I'm making a face at him, and he's saying "fisherman." So that was his take, and he said, nobody wanted to go fishing, everyone wanted to be, everybody wanted to be a marine biologist, you know, and so I think, I don't know if that reflects a change about what people are looking at, because fishing, I think, and I think he, he kind of laughed as he said that, because he saw, saw the industry itself as being increasingly regulated, increasingly expensive in terms of fuel costs, and it's a difficult, sometimes dangerous, kind of occupation too, and doesn't really attract young students, like young people like it did. But everybody thinks marine biology is like the, the buzz word, you know, so they all want to go into that. I don't know how many jobs there are in there, but...

**MHA:** And I wonder what they think they would do as a marine biologist.

**JP:** Yeah, I don't know. I think a lot of people think they're going to go diving, you know. And I remember somebody telling me one time, they said, "you shouldn't go into marine biology if you just want to go diving." And so I said, "no, I just would like to use it, you know." But, maybe I think because the media has portrayed it as being such a... Shark Week going on this week right now actually, people think, oh that's exciting, you know, and actually one of the people, Greg Skomal, whose often on Shark—he used to work right here. He was a student that used to be here, worked in the apex predators group with Nancy Kohler and Lisa Natanson, so. So they think that's pretty exciting, and it is, you know, but there aren't that many positions, you know, there's a lot more things that, you know, people looking at data is not quite as exciting, you know, or even collecting the data, even our research crews like we go on is pretty routine, you're putting your plankton nets in 150 times over the course of three weeks that you're out at sea, you know, you work a 12 hour day, you know, seven days a week, something that's not that exciting for a lot of people, you know. It just depends what you're looking for I guess. But yeah, I think, yeah, people don't know, or basically, so I think maybe through outreach we can educate people as to what they might be getting themselves into. And, and even, I think, even the going to sea part, like, like across the street here, the Graduate School of Oceanography, has a requirement that students in order to graduate with a degree in oceanographer have to spend, I think it's five or six nights at sea on a research vessel doing, doing something so that they can see if they really want to do something like this with their career, you know so...so it's interesting. So I don't know, so to answer your question, I don't know what people, I think they have a lot of preconceived ideas about how romantic it might be to do marine science, but it may not always be what they think, you know.

**MHA:** What is the most interesting thing you've seen at sea when you've gone on your cruises?

**JP:** Ah, the most interesting thing, huh? Boy, that's a tough one because it could be so many different things, you know. I've always been impressed, you know, and I'm not a whale person, but I'm always impressed seeing a whale's breaching, or humpback whales doing their—I've read about how they fish by blowing a ring of bubbles, and to actually see that, thought that was pretty exciting, it was pretty neat to see that, so I enjoyed seeing that. Yeah...the samples, excuse me, sometimes strange things can happen, like we put up plankton net in the water, expecting to catch plankton, and one time I had a small, it wasn't a very large opening, it's a bongo net, it's two nets side by side, it was one opening was—I'm holding my hands up so it's about 20 centimeters, about a little less than two feet across, and inside the net was a goosefish, an angler fish, you know, why was he there? It's supposed to be a bottom fish. We weren't fishing on the bottom. So we had to kind of gingerly get him out of there, you know, so that was kind of interesting, so

**MHA:** Those big teeth?

**JP:** Yeah, with the big teeth, the big mouth, you know, it's got the little angled things coming out of its' head, so got, got him out of there. Working on the trawl survey, that's kind of interesting too, you see a lot of different animals, you know, get your hands on turtles, caught turtles, and large rays, so that's kind of interesting. To see, you know, hands on some of the creatures that live there, not just read about them, think that's been pretty interesting to me. And also, I got to put the diving in here too, I think sometime, I had a chance to dive with a person that's still in our system at the systematics lab, it's Bruce, Dr. Bruce Collette. And he taught an ichthyology course at Nahant in Northeastern, and he showed me how to collect fish one time using rotenone. So we went diving, and he's got this little bottle of dark red liquid, and he pours it out onto the bottom, and he just, he just motioned to me with his hands to wait, stand back a little bit. And we waited a couple minutes and then he just takes his hand and he just gently waves his hand over the bottom gently back to and fro, back and forth, and these little fish came up all anesthetized with a, from the rotenone and we just picked them up and we brought them to the ichthyology class the next day. So that, I thought that was kind of fascinating—I've never seen that before, you know, so that was kind of interesting, so I remember that, it was kind of—things have stuck with me, you know, yeah.

**MHA:** What do you think has been, I asked you about interesting, how about what has been most rewarding to you in your career? It's kind of a broad question...

**JP:** Well, I suppose as a scientist I should say, well, I've had a chance to be co-author on, on some papers, you know, I haven't published a lot myself, you know, but I've worked with other people. It's rewarding, but also the fact to work with different people from different countries I think that was, I find that very rewarding, I think, especially people from countries that I've never thought I was going to visit, like the Soviet, then Soviet Union at the time, you know, and to see, them doing science and talking to them about the same problems, you know, looking at data. So I thought that, I found that very rewarding, and I've enjoyed those experiences that I've had, I think that was very rewarding, to be able to have the opportunity to be able to do that.

**MHA:** Have you ever had a chance to travel to any of those countries that are distant, the distant

water fleets?

**JP:** Yeah, no, I haven't, I haven't traveled to any of the countries, I think the most travel I've done has been to go to Bermuda. We had a ship of opportunity program, which has since been closed down now, but we would collect samples working towards Bermuda and I had a chance to help, help with that, that was kind of interesting. But, but I haven't visited the other laboratories in other the countries, but I haven't done that, yeah.

**MHA:** And in your work here, are there marked differences in the plankton samples that you've been collecting from the Northeast and maybe comparing it to...some place elsewhere?

**JP:** Yeah, yeah you could, I see that. I think once something that you do see as you go along, even on one cruise, just changing geographically from south to north you can see the difference, and you don't need a microscope to see the difference in the terms of what you're catching. You'll see like in the Gulf of Maine you'll catch, you know, calanus copepods, which are quite red, almost looks like a dark tomato sauce because the oil that they have in their bodies. The further south, you won't, you won't see that but you may see samples that might have more of a brownish greenish tinge if you're in shore, warmer, less saline environment you'll get different organisms there, might be a diatom or dinoflagellates, you know that give, make the sample look different. So I can see quite big differences, you know, from one area to the next. But then, you also got the time difference, you know, we go out to sea from, you know, all year round, so you can see a quite, a lot of difference in the summer, you may get a lot of gelatinous organisms like comb jellies and jellyfish and salps, you know, trawled very different organisms, but all very jelly like and they plug up the nets and cause a big mess, you know. And in the winter time you don't see that for example...none of those.

**MHA:** Where do they go?

**JP:** They just die off I guess, they just, and they start another cycle when the water warms up again. See interesting things like, I'm trying to think, there are like crustaceans that eat at the inside of a salp away and they live inside of the salp and swim around and they use the salp body, clear salp body, like a nursery and they lay their eggs in there and then they, they raise their--in fact the organism that does that suppose, the story has, I don't know if you've heard the story, that was the, the creature and alien. Aliens was based on this organ—this creature here—much bigger, of course, but, this is, has that kind of a, that weird head, and then it looks very, very sinister kind of...so you see a lot of interesting things in the plankton, but yeah you see, you can see differences over time and over space, I think, yeah so yeah.

**MHA:** So do you thi—can you think about any research or any, any work that you've done, that you've seen a progression and its' made an impact on, on what's being done with NMFS, with fisheries, for example, fisheries management or just knowledge in general?

**JP:** Well, ok, I used to think I would pick on for that would be the change in distribution over time, over years, and just my early interest as a graduate student, just trying to publish, you know, or at least print up one thesis on the distribution of this one copepod and how it changed over time and then seeing that, that same scenario repeated by other people with other organisms and fish like Jon Hare has been doing. And so I think that's one thing we've shown that things are

changing. And I saw, I feel like my, my interest, my early interest has been maybe of small contribution to that, you know, in terms of showing how the climate change is not just changing but the organisms are changing, in where they are too. And we see that you know in the like origin of Atlantic croaker, we see that in lobsters, which are not too happy with warmer water conditions, maybe cod, which also are not doing too well in warmer water conditions. So, yeah I guess that that theme of things moving, you know, up further the north and trying to adjust to a rapidly changing world. So I feel maybe I've helped a small part in that, yeah so.

**MHA:** So, what do you see as the future and the future of our...well I, you were talking about the everything moving north, where's everything going to be?

**JP:** I don't know yeah, that's a good question. Where do they go, what about those guys that are already, that were, you know, that are they getting squeezed out, where do they go, you know? They just don't do as well. The future...well I don't know, a future. I don't know the future I think is you know sometimes a little scary I think, because it's not just that things are changing, but they're changing quickly, changing too quickly for organisms to adapt well, you know, so I think that NMFS I think our, our future for us in terms of our role is to just make people aware of that we need to be doing all we can to address, you know, climate change and maybe just slow things down. And we're not going to change, no going to change change, we're not going to stop climate change, or certainly not reverse it. I think what we can do maybe is, is give ourselves a little more time, may slow things down, do the right decisions too in terms of what we put out to the atmosphere, less carbon and than that. And so, I think, fisheries' role I think would be to just be increasingly in sync, get the public, you know, on board with what's going on and make them see firsthand that is not because we tell them, but maybe we can show them, maybe we—one thing we have now that we didn't have when I was a student is tremendous media coverage now. You know everybody has access to the latest things through Twitter and different social media accounts and TV is, you know, it's not just Jacques Cousteau programs anymore, but a lot of people are, like Shark Week, for example, is a good way to show...there's you know we can continue in that vein and people can see firsthand what's, what's going on. I think we'll play a valuable role in getting people to make the right decisions in the future. As for the animals, I'm not sure what's going to happen to those guys that like cold water, you know, and where they're going to go, but...you know, the other ones will be supplanted by fish that move into those areas and will learn to, you know, use them or...get some kind of fishing yield from fish that we hadn't thought of in the past. I don't know. So maybe that's the future, I guess.

**MHA:** Maybe we'll all go up to the Arctic.

**JP:** I don't know, yeah.

**MHA:** This has really been very fascinating.

**JP:** Oh good.

**MHA:** Let me just look over, and see if there's anything else. Maybe I can ask you...is there anything that you haven't talked about yet, you know, I haven't thought to ask you that you'd like to make sure people know for the future of, for now, throughout the past, whatever?

**JP:** Oh I, I know, there's one thing I—it's a small thing maybe, but we're talking about students before, you know, and the outreach thing, and I think one of the things that I've always believed, one message I leave with students is that, remembering my own experience with the co-op experience where I had a chance to work with people and go to sea and get sick, but I decided it was worth it. I tell students to try to get their hands in, into a field that they're interested in thinking about. Doesn't have to be marine biology, whatever it is, but just if they have a chance to intern or volunteer for nothing, even if...if to somehow get involved and, and see firsthand. So I think that's one message I wanted to leave and so I always tell students, I said, you know just, you know just sign up or do something, you know, at least...and also it helps you too. First of all, you won't be wasting your time if you don't like that, but also too people get to know you and if you are looking for a job in that field, they'll say "oh yeah I know so and so." You're not just a name on a resume, you know, endless pieces of paper coming at them, they'll say "oh yeah I know, remember this person," you know. So it helps them in terms of employment, and also in terms of what they'd like to do for a, you know, the rest of their lives. That's one thing I guess...

**MHA:** That's important.

**JP:** Yeah.

**MHA:** Yeah...so you've been living down here for quite a few years now?

**JP:** Yes. Since...well, I've moved here because of the job in '74. I've been here since 1974, yeah, so. That's a nice area it's a, it's a part of New England that I used to just drive through, you know. I never thought of Rhode Island as any more than just a stretch of 95 that you're going down. But then I thought, wow, this is a pretty, pretty nice state, you know, and I, I enjoy living here, it's a good place to, to live, good place to raise kids, you know, so, yeah, it's pretty good. I think I'll, I'll stick around, for a while, yeah.

**MHA:** So, are many of the people you are working with now, have they, have many of them been here...as long as you, or close to as long as you?

**JP:** Oh no. I think, as long as, at this place, no, not too many now. Uh, Ken, of course...but Nancy Kohler, she's, but even she's more recent than I am now. Most of the people that were, came here the same time I did are gone now, they've retired, yeah so...so yeah I'm one of the...one of the geezers now I guess here.

**MHA:** Ok...alright. Well, I think that I've asked you everything that I had planned to ask you.

**JP:** Ok.

**MHA:** And...found it very interesting.

**JP:** Oh good, well good. Well, thanks, thanks for doing this, this was fun actually, yeah.

**MHA:** Good. Well, thanks for taking the time.

**JP:** Ok.

**--Post Script--**

**JP:** If you think that's ok, I, I was a little concerned...I think that's negative because we used to be so gender biased, we really were, I think it's...

**MHA:** No, this is great, this is a post script by Jerry, and...we were just talk, chatting after the inter—formal interview, and thought we would add this little piece.

**JP:** Ok, well I just wanted to mention one of the things I did notice when we were talking about changes I've seen in my career and I think a huge change, which I didn't address was I, the gender changes in terms of people going to sea, working at sea in terms of science. So when I was a student going on cruises, you never saw any women on the vessels and then there were women scientists, of course, that wanted to go out and have a hand in collecting the data. Ruth Stoddard was one of the first women on the Albatross IV, and she was out there and I remember the, the crew, the fishermen were grumbling, "ah a woman is bad luck," you know it's this terrible thing, you and, but slowly, slowly I think I've seen a change where you see more scientists coming to sea now, and it's become accepted. But now, I think in more recent years, it's a, a total change in terms—it's not just women scientists now, I've seen women crew, I see women crew, I see women command, and running the vessels, women captains... that are running the vessels, and so this has been much, it's a very positive change I just thought I should bring up that NOAA has become a much less gender biased organization than it used to be, I think in the very early days, and I think it's uh, it's a nice, it's a nice change. And I think also ironically I think everybody at sea is much happier about it too because it's a much more normal environment—

**MHA:** Right.

**JP:** You know, it's just like being ashore, you get to deal with people, not just men all the time, you know so. I just thought I would mention it.

**MHA:** Good, well thank you. That's, that's great.